REMARKS

The Examiner telephoned the undersigned after the paper TOPICS OF DISCUSSIONS was filed, and indicated that rather than an informal discussion, a formal interview should be requested.

Applicants provide the following remarks for the Examiner's consideration and request such a formal interview (telephonic).

(1) Differences in Structure Between a Sprayed Coating and Other Coatings

Literature: J. R. Davis, "Handbook of Thermal Spray Technology' 35 (2004)

A sprayed coating, a CVD coating and a PVD coating are compared with one another under the title of "General characteristics of major coating methods" in Table 11 on page 35 in the above literature. Because the sprayed coating is different in coating thickness, mechanism of adhesion with a substrate, adhesion strength, the surface condition of the coating from a sputter coating or a CVD coating and the sprayed coating of the present invention can be distinguished in structure from each other, i.e., the coatings obtained by different methods can be distinguished in surface condition.

Applicants will shortly file a copy of the relevant portions of Davis.

(2) The Young Patent

Young describes that the copper aluminosilicate (sealing) glass according to Young has a composition consisting essentially, in terms of weight percent on an oxide basis, of 35-68% SiO_2, 3-25% Al_2O_3, 2-26% B_2O_3, about 2-33% CuO, 0-20% R_2O, 0-30% RO, 0-10% M_xO_y, where R_2O is an alkali oxide selected from the group consisting of Na_2O, Li_2O, (and) K_2O, RO is an alkaline earth oxide selected from the group consisting of CaO, MgO, ZnO, SrO, (and) BaO, and M_xO_y is a transition metal oxide selected from the group consisting of Co_2O_3, TiO_2, NiO,

MnO_2, and Fe_2O_3 (see column 5, lines 29 to 36). Young is silent about ZrO_2 which is an essential component in claim 3 or claim 4 of the present application.

According to the Inventors herein, Zr is low in reactivity with corrosive gases or plasma used in semiconductor manufacturing; thus, even if reaction with fluorine in the corrosive gas or plasma occurs, the formed substances are high-boiling point compounds. Thus, Zr is effective for suppressing etching caused by corrosive gases or plasma.

(3) Softening Point

Chiba describes at column 2, lines 18 to 23 that one reason why the glass described in Chiba preferably has a softening point of 600 to 800°C is that if it is less than 600°C, softening flow tends to be too significant during firing at a temperature of from 600 to 850°C, and if it exceeds 800°C, softening flow tends to be too small during the firing. Chiba describes that one use of the material according to Chiba is insulating pastes for electronic parts.

Applicants believe that the firing temperature of 600 to 850°C in Chiba is the temperature at which copper used as a wiring material of electronic parts on which the Chiba insulating paste is coated is not oxidized.

Accordingly, when an aluminosilicate glass and a zirconia silicate glass each having a softening point of 1,000°C or higher according to the present invention are molten, because copper should be oxidized, it is clear that the glasses cannot be used for the same purpose as that of Chiba. Accordingly, because the glass according to the present invention is different in object, constitution and effect from that of Chiba, the glass according to the present invention is not the same as the glass as described in Chiba and is not obvious over the glass as described in Chiba.

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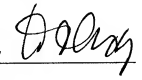
Respectfully submitted,



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